

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed September 21, 2006. At the time of the Office Action, Claims 22-35 and 37-39 were pending in this Application. Claims 22-24, 26-35, and 37-39 were rejected. Claim 25 was objected to. New Claim 67 has been added to rewrite allowable Claim 25 in independent form. Claims 1-21, 36, and 40-66 have been cancelled without prejudice or disclaimer. Applicants respectfully request reconsideration and favorable action in this case.

Objections to the Drawings

The Examiner objected to the drawings for failing to show "the oxygen gas delivery device that is a multi-lumen annular conduit." (Office Action, page 2). Although Applicants may disagree with the Examiner's allegation, Applicants have cancelled Claim 32 (the only claim that recites such element) in order to advance prosecution. Thus, Applicants request that the Examiner withdraw the objection to the drawings.

Claim Objections

The Examiner objected to Claims 35 and 38 under 35 CFR § 1.75(c) for failing to further limit the subject matter of a previous claim. Applicants have cancelled Claims 35 and 38. Thus, Applicants request that the Examiner withdraw the objections to the claims.

Rejections under 35 U.S.C. § 112

Claim 32 was rejected by the Examiner under 35 U.S.C. §112, second paragraph. As discussed above, Applicants have cancelled Claim 32. Thus, Applicants request that the Examiner withdraw the rejection under 35 U.S.C. § 112.

Rejections under 35 U.S.C. §103

Claims 22, 29, 30, 32-35, and 37-39 were rejected under 35 U.S.C. §103(a) as being unpatentable over Great Britain Patent 1,185,199 issued to Sebastian Vincent Nicastro ("*Nicastro*").

Claims 23, 24, 26, and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Nicastro* in view of U.S. Patent 5,357,758 issued to Martin D. Andonian (“*Andonian*”).

Claim 31 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Nicastro* in view of U.S. Patent 4,211,086 issued to Rex D. Leonard et al. (“*Leonard*”).

Applicants respectfully traverse and submit the cited art combinations, even if proper, which Applicants do not concede, do not render the claimed embodiment of the invention obvious, as discussed below.

Independent Claim 22 is Allowable over *Nicastro*.

In order to establish a prima facie case of obviousness, the references cited by the Examiner must disclose all claimed limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Applicants submit that *Nicastro* fails to disclose or suggest all of the limitations of Claim 22. For example, *Nicastro* fails to disclose or suggest “an economizer valve for minimizing venting by balancing gaseous and liquid oxygen withdrawal from said portable LOX container.”

The Examiner attempts to equate “pressure regulating valve 30” of *Nicastro* with the economizer valve of Claim 22. However, as discussed below, pressure regulating valve 30 of *Nicastro* is clearly not an economizer valve, and clearly does not “minimiz[e] venting by balancing gaseous and liquid oxygen withdrawal from said portable LOX container.”

Nicastro teaches a bottle 5 for containing a liquid 6 (air or oxygen), which bottle can be strapped to a user’s back. (Figure 1; page 2, lines 32-40). As shown in Figure 1, the liquid 6 is withdrawn from bottle 5 through a liquid outlet conduit 12, and then travels along:

(a) a first path toward and through a heat exchanger 16 for converting the liquid 6 into gas for breathing purposes (page 2, lines 44-55), and

(b) a second path through line 25, heating coil 26, outlet line 28, valve 29, pressure regulating valve 30, outlet line 32, gas pressurizing conduit 33, and back into bottle 5. (page 2, lines 59-78).

This second path allows a part of the liquid 6 withdrawn from bottle 5 to be converted into gas and reinserted into bottle 5 in order to pressurize the interior of bottle 5. (page 2,

lines 59-66). Liquid 6 flowing along the second path is converted into gas by heating coil 26, and the output gas is then directed toward pressure regulating valve 30. Pressure regulating valve 30 merely regulates the flow of this gas back into bottle 5 along line 32 and conduit 33, in order to “provide a uniform and steady pressure [inside bottle 5] to expel the liquid air or oxygen.” (page 3, lines 83-87).

Thus, it is clear that *Nicastro*’s pressure regulating valve 30 does not “minimiz[e] venting by balancing gaseous and liquid oxygen withdrawal from said portable LOX container,” as recited in Applicants’ Claim 22. In fact, the system disclosed by *Nicastro* does not even provide for gaseous oxygen (or air) withdrawal from bottle 5. Thus, *Nicastro* obviously cannot teach a valve for “balancing gaseous and liquid oxygen withdrawal from” bottle 5.

Further, in anticipation of a possible response by the Examiner, Applicants submit that it would not be obvious to modify *Nicastro* to include “an economizer valve for minimizing venting by balancing gaseous and liquid oxygen withdrawal from said portable LOX container.” Modifying *Nicastro* to include an economizer valve, if even possible, would change the principle of operation of *Nicastro*, which is prohibited according to the M.P.E.P.:

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. M.P.E.P. § 2143.01 VI.

In *In re Ratti*, 270 F.2d 810, 813; 123 USPQ 349, 352 (CCPA 1959), the court reversed the Examiner’s rejection of the claims under §103, holding the “suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate.”

Here, modifying *Nicastro* to include an economizer valve, if possible, would require redesigning the bottle 5 to include a gaseous air/oxygen withdrawal conduit, adding an economizer valve, and connecting the economizer valve to be in communication with both the liquid withdrawal conduit 12 and the gaseous air/oxygen withdrawal conduit. Such modification would require substantial reconstruction and redesign of the elements shown in

Nicastro. In addition, such modification would also likely render one or more components of *Nicastro*'s system useless for their intended purposes.

For at least the reasons discussed above, *Nicastro* fails to teach or suggest "an economizer valve for minimizing venting by balancing gaseous and liquid oxygen withdrawal from said portable LOX container," as recited in Claim 22. Further, as discussed above, it would not be obvious to modify *Nicastro* to include such features. Therefore, Applicants respectfully request reconsideration and allowance of Claim 22, as well as Claims 23-31, 33-34, 37, and 39 that depend from Claim 22.

Allowable Claim 25 Rewritten as New Claim 67.

Applicants appreciate Examiner's consideration and indication that Claim 25 would be allowable if written in independent form to include all of the limitations of the base claim and any intervening claims. Applicants submit new Claim 67 incorporating the elements of allowable Claim 25, intervening Claims 23 and 24, and base Claim 22, with the exception of removing the final limitation regarding usage time of the LOX apparatus, which Applicants believe to be unnecessary for the allowance of the claim. Applicants submit new Claim 67 is in condition for allowance and requests favorable action.

New Claim 68 is Allowable.

Applicants submit that new Claim 68 is allowable over the cited references at least because the cited references, alone or in combination, fail to teach or suggest:

an economizer valve for minimizing venting by controlling the flow of gas from said gaseous withdrawal conduit through said valve relative to the flow of gas from said liquid withdrawal conduit through said valve, said gas from said liquid withdrawal conduit comprising evaporated liquid from said liquid withdrawal conduit;

wherein said liquid withdrawal conduit has an inner diameter sized so that when said economizer valve is open, gaseous flow from said gaseous withdrawal conduit takes precedence over gaseous flow from said liquid withdrawal conduit;

For at least this reason, Applicants respectfully request consideration and allowance of new Claim 68.

CONCLUSION

Applicants have made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. Applicants respectfully request reconsideration of Claims 22-31, 33-34, 36-37, 39, and 67-68 as amended.

Applicants believe there are no fees due at this time; however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

If there are any matters concerning this Application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2689.

Respectfully submitted,
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